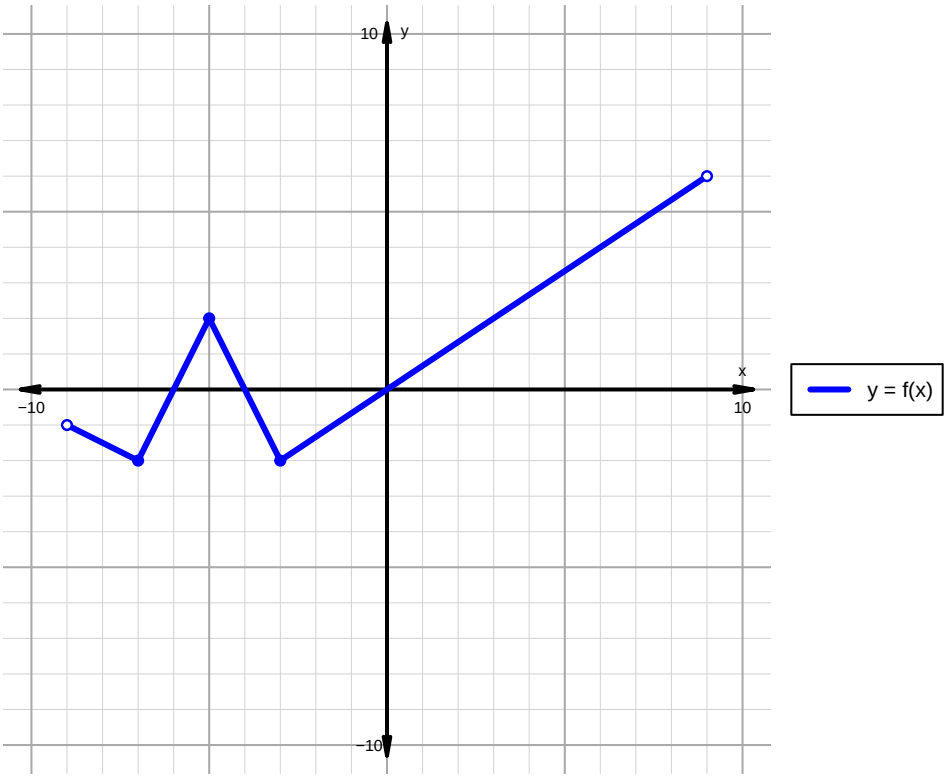
Name: Date:

Intervals, Transformations, and Slope Solution (version 67)

1. The function f is graphed below.

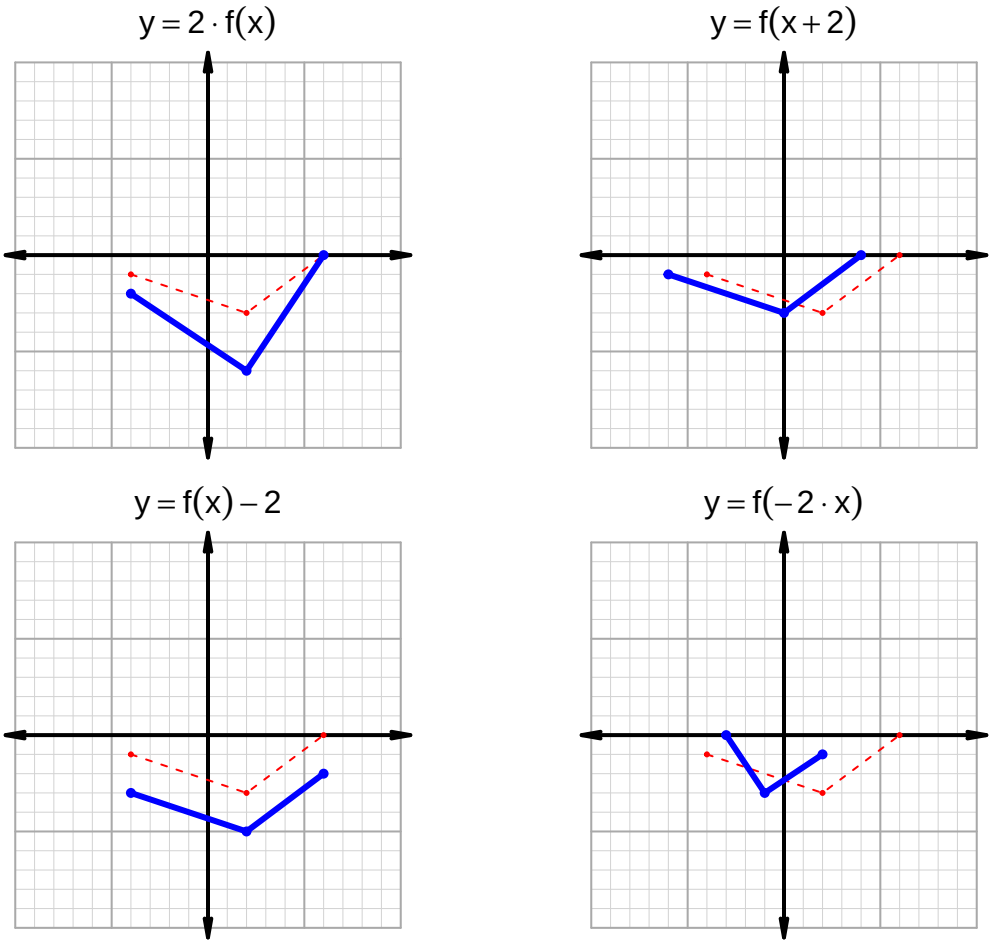


Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-6,-4) \cup (0,9)$
Negative	$(-9,-6) \cup (-4,0)$
Increasing	$(-7,-5) \cup (-3,9)$
Decreasing	$(-9,-7) \cup (-5,-3)$
Domain	$(-9,9)$
Range	$(-2,6)$

Intervals, Transformations, and Slope Solution (version 67)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 67$ and $x_2 = 81$. Express your answer as a reduced fraction.

x	$g(x)$
33	67
35	81
67	35
81	33

$\frac{g(81)-g(67)}{81-67} = \frac{33-35}{81-67} = \frac{-2}{14}$

The greatest common factor of -2 and 14 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-1}{7}$$